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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,978	04/25/2001	Susana Salceda	DEX-0172	3638

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EXAMINER	
AEDER, SEAN E	
ART UNIT	PAPER NUMBER
1642	

NOTIFICATION DATE	DELIVERY MODE
07/09/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

poreilly@licataandtyrrell.com

Office Action Summary	Application No.	Applicant(s)	
	09/763,978	SALCEDA ET AL.	
	Examiner	Art Unit	
	SEAN E. AEDER	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14,21-28 and 35-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14, 21-28, and 35-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/22/08 has been entered.

Claims 14, 21-28, and 35-49 are pending.

Claims 14, 24, 28, 38-40, and 44-46 have been amended by Applicant.

Claims 14, 21-28, and 35-49 are currently under consideration.

Response to Arguments

35 USC § 101 and 35 USC § 112 Claim Rejections

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 14, 21-28, and 35-49 remain rejected under 35 U.S.C. 101, because the claimed invention is not supported by either a substantial utility or a well established utility, for the reasons stated in the Office Action of 5/17/07, the reasons stated in the

Office Action of 10/22/07, and for the reasons set-forth below. Further, claims 14, 21-28, and 35-49 remain rejected under 35 U.S.C. 112 first paragraph, because since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know *how to use* the claimed invention, for the reasons stated in the Office Action of 5/17/07 the reasons stated in the Office Action of 10/22/07, and for the reasons set-forth below.

The Office Action of 10/22/07 contains the following text:

"The claims are drawn to isolated antibodies or antibody fragments that bind specifically to a protein encoded by polynucleotide SEQ ID NO:1 or to fragments of a protein encoded by SEQ ID NO:1 and a method for binding said antibodies to said protein or to fragments of said protein.

As stated in the Office Action of 5/17/07, the specification does not teach the protein sequence or the open reading frame of SEQ ID NO:1. Thus, the specification does not provide enough information to indicate for which proteins the claimed antibodies are specific. Therefore, the specification clearly does not describe a utility for antibodies with unknown specificity.

In the Response of 8/17/07, Applicant reiterates previously-presented arguments. Applicant states that Examiner's suggestion that the protein encoded by SEQ ID NO:1 is not implicit in the teachings of the specification because multiple reading frames are identified using the tools available and one of skill in the art would have no reason to assume that the larges open reading frame (ORF) identified by a computer program would be the protein encoded by SEQ ID NO:1 is indicative of the Examiner's failure to weigh all the evidence before him. Applicant further states that the longest ORF of SEQ ID NO:1 begins with a Kozak consensus sequence at the 5' proximal ATG in SEQ ID NO:1, the initiator codon for the majority of mRNAs. Applicant further states that both consensus sequences and 5'-proximal ATG are well known characteristics of coding sequences of nucleic acids and therefore do not need to be expressly outlined in the specification. Applicant cites MPEP 2164.05 and states that the specification need not disclose what is well known to those of skill in the art and preferably omits that which is already available to the public. Applicant further cites Dr. Salceda's Declaration, which states "we know that the open reading frame in the forward direction of SEQ ID NO:1 would be a frame encoding a Methionine near the 5' end, encode many amino acids and terminate with a stop codon". Applicant further states that submitted with this declaration are data generated from ORF Finder program, which lists the longest open reading frame first when displaying the results. Applicant concludes: "Thus, contrary to

the Examiner's suggestion, one of skill in the art does have reason to believe, absent evidence otherwise, that the largest open reading frame identified by a computer program for a selected nucleic acid sequence is the ORF encoding the protein".

The amendments to the claims and the arguments found in the Reply of 8/18/07 have been carefully considered, but are not deemed persuasive. In regards to the argument that the Examiner did not weigh all the evidence before him, the Examiner *has* weighed all the evidence before him and has addressed all said evidence in the Office Actions of 1/3/05, 6/22/05, 12/28/05, 7/28/06, and 5/17/07.

In regards to arguments that protein sequences and/or open reading frames were routinely obtained by those of skill in the art at the time of filing based upon identifying ATG start sequences and Kozak consensus sequences and therefore do not need to be expressly outlined in the specification, this guidance and essential information was not provided in the originally filed application. Further, Kozak (The Journal of Cell Biology, 1991, 115(4):887-903) teaches that Kozak consensus sequences are not found at the start of *every* open reading frame (see right column of page 887 and left column of page 888, in particular); rather, they are the most frequently occurring sequences flanking functional initiator codons of open reading frames. Further, SEQ ID NO:1 contains numerous ATG "start sites" and the originally filed application gives no guidance for identifying which of said ATG "start sites" marks the 5' end of an open reading frame. Further, Kozak sequences are not specifically *defined* sequences; rather, Kozak sequences are "non-random sequences" comprised of different nucleotides and are described by a "likelihood" of the order of said nucleotides within a sequence. Since Kozak sequences are not defined by one *specific* sequence, it is unclear whether the asserted Kozak sequence near position 62 is the only bona fide Kozak sequence in SEQ ID NO:1, a region encoding the middle of a protein encoded by SEQ ID NO:1, or a region outside of an open reading frame of SEQ ID NO:1. Further, it is noted that Dr. Salceda declared that the sequence of the protein encoded by SEQ ID NO:1 was based on said sequence being encoded by a long sequence with a Methionine near the 5' end and terminate with a stop codon, rather than being based on a sequence being flanked by a Kozak sequence. Therefore, it is clear from the record that identification of start sites based on Kozak sequences is not as routine as Applicant asserts.

In regards to the citation of MPEP 2164.05 and the statement that the specification need not disclose what is well known to those of skill in the art and preferably omits that which is already available to the public, proteins encoded by SEQ ID NO:1 were not well known to those of skill in the art and were not already available to the public. Further, the sequence of proteins encoded by SEQ ID NO:1 are not implicit in the teachings of the specification and/or in the teachings of the specification in light of the art. There were routinely-used methods at the time of filing that would have enabled one of skill in the art to identify *potential* open reading frames from an mRNA sequence. However, as indicated in the figures provided with the Declaration, Applicants would identify multiple open reading frames using tools described in the art with SEQ ID NO:1. One of skill in the art would have no reason to assume that a particular potential ORF identified by a computer program would encode *the* protein encoded by SEQ ID NO:1.

From the information provided in the specification, the protein of SEQ ID NO:1 may be encoded by other smaller open reading frames diagramed in the Declaration's figures. Therefore, since the specification does not identify "a protein encoded by polynucleotide SEQ ID NO:1", it cannot be determined to what the claimed antibody or antibody fragment will bind. Utility of an antibody specific for a protein that the specification did not adequately describe is irrelevant. Essentially, the specification does not describe what the protein *is*. Thus, there is no utility for the claimed antibodies, antibody fragments, or methods of using said antibodies or said antibody fragments."

In the Submission of 4/22/08, Applicant states that the instant specification meets the requirements of enabling how to use and establishing a specific, substantial and credible utility with respect to the claimed invention. Applicant further presents a declaration by Dr. Sluss, which disagrees with the Examiner that utility of the claimed invention is dependent upon identification of "the" protein sequence or the open reading frame of SEQ ID NO:1 and indicates that overexpression of OVr110 mRNA in gynecological cancers demonstrates utility for the claimed invention. Applicant further states that it is clear from Dr. Sluss' Declaration that further research and development required to select antibodies useful as diagnostic cancer markers for Ovr110 was well established and routine by 1998. Dr. Sluss' Declaration further states that as of 1998, generating proteins and peptides encoded by a defined nucleic acid sequence such as SEQ ID NO:1 or its fragment was routine. Dr. Sluss' Declaration further states that as of 1998, generating antibodies for proteins and validating antibody-based diagnostic methods was routine.

The amendments to the claims and the arguments found in the Submission of 4/22/08 have been carefully considered, but are not deemed persuasive. In regards to the argument that the specification provides a specific, substantial and credible utility with respect to the claimed invention, the specification does not teach the protein

sequence or the open reading frame of SEQ ID NO:1. Thus, the specification does not provide enough information to indicate for which proteins antibodies of the instant claims are specific. The specification clearly does not describe a utility for antibodies with unknown specificity. Further, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know *how to use* the claimed invention.

In regards to the declaration by Dr. Sluss, which disagrees with the Examiner that utility of the claimed invention is dependent upon identification of "the" protein sequence or the open reading frame of SEQ ID NO:1 and indicates that overexpression of Ovr110 mRNA in gynecological cancers demonstrates utility for the claimed invention, overexpression of Ovr110 mRNA in gynecological cancers demonstrates utility for Ovr110 mRNA and methods of detecting Ovr110 mRNA. Unlike disclosed Ovr110 mRNA, the specification does not provide enough information to indicate for which proteins antibodies of the instant claims are specific. While specificity for reagents used to detect Ovr110 mRNA is clear, the specification clearly does not describe a utility for antibodies with unknown specificity.

In regards to the arguments that it is clear from Dr. Sluss' Declaration that further research and development required to select antibodies useful as diagnostic cancer markers for Ovr110 was well established and routine by 1998, such antibodies or the specificity of such antibodies are not disclosed in the instant specification. Further, the sequence of proteins encoded by SEQ ID NO:1 are not implicit in the teachings of the specification and/or in the teachings of the specification in light of the art. There were

routinely-used methods at the time of filing that would have enabled one of skill in the art to identify *potential* open reading frames from an mRNA sequence. However, as noted in Applicant's previous declaration by Dr. Salceda, Applicants would identify multiple open reading frames using tools described in the art with SEQ ID NO:1. One of skill in the art would have no reason to assume that a particular potential ORF identified by a computer program would encode *the* protein encoded by SEQ ID NO:1. Further, screening methods proposed by Dr. Sluss' declaration to determine whether proteins encoded by potential open reading frames would generate antibodies that differentiate cancerous gynecological tissue from non-cancerous gynecological tissue would not necessarily bind proteins that are actually produced by SEQ ID NO:1 and such screening methods to identify antibodies is part of the inventive process to identify an antibody and not methods of "further research and development" for an identified invention. From the information provided in the specification, the protein of SEQ ID NO:1 may be encoded by other smaller open reading frames diagramed in Dr. Salceda's Declaration's figures. Therefore, since the specification does not identify "a protein encoded by polynucleotide SEQ ID NO:1", it cannot be determined to what the antibody of the claims will bind. Without disclosing identifying structural characteristics or binding specificities of the antibodies of the instant claims, said antibodies and processes of using said antibodies have not been invented or discovered in a manner supported by a specific and substantial utility or a well-established utility.

35 USC § 112 (WRITTEN DESCRIPTION REJECTION)

The rejection of claims 14, 21-28, and 35-49 under 35 U.S.C. 112 first paragraph, for failing to comply with the written description requirement, is maintained for the reasons stated in the Office Action of 5/17/07, the reasons stated in the Office Action of 10/22/07, and for the reasons set-forth below.

The Office Action of 10/22/07 contains the following text:

"The claims are drawn to isolated antibodies or antibody fragments that bind specifically to a protein encoded by polynucleotide SEQ ID NO:1 or to fragments of a protein encoded by SEQ ID NO:1 and a method for binding said antibodies to said protein or to fragments of said protein.

As stated in the Office Action of 7/28/06, the specification does not teach the protein sequence or the open reading frame of SEQ ID NO:1. Thus, the specification does not provide enough information to indicate for which proteins the claimed antibodies are specific. Without identifying for which proteins the claimed antibodies are specific, the antibodies lack a written description, as the specification does not disclose identifiable structural or functional attributes of said antibodies.

In the Response of 8/17/07, Applicant states that teachings of SEQ ID NO:1 with a single Kozak consensus sequence flanking the longest open reading frame in the nucleic acid sequence which begins at the 5'-proximal ATG of the disclosed nucleic acid sequence clearly conveys with reasonable clarity to those skilled in the art, as of the filing date, that the inventors were in possession of the instant claimed invention.

The amendments to the claims and the arguments found in the Reply of 8/18/07 have been carefully considered, but are not deemed persuasive. In regards to the argument that teachings of SEQ ID NO:1 with a single Kozak consensus sequence flanking the longest open reading frame in the nucleic acid sequence which begins at the 5'-proximal ATG of the disclosed nucleic acid sequence clearly conveys that the inventors were in possession of the instant claimed invention, the specification discloses SEQ ID NO:1, but does not make reference to a Kozak consensus sequence flanking a longest ORF beginning with a 5'-proximal ATG. Further, the specification does not provide a written description of the antibodies because it is unclear to which protein they are to bind. Without identifying which polypeptides the claimed antibodies specifically bind, the antibodies lack a written description, as the specification does not disclose identifiable structural or functional attributes of said antibodies. Further discussion of why it is unclear which polypeptide the antibodies are to bind can be found above and in the Office Actions of 1/3/05, 6/22/05, 12/28/05, 7/28/06, and 5/17/07."

In the Submission of 4/22/08, Applicant cites Dr. Sluss' Declaration and argues that Dr. Sluss does not believe that the identification of a protein sequence or an ORF in

the patent application is required for one of skill to identify structural or functional attributes of antibodies to proteins or peptide fragments of SEQ ID NO:1 or fragments thereof. Dr. Sluss' Declaration further states that the nucleic acid sequence contains all information needed for one skilled in the art to predict all proteins that could be coded using software tools available in 1998. Dr. Sluss' Declaration further states that predicted protein sequences could then be used in homology searches to identify target immunogens for specific antibody generation using software tools available in 1998. Dr. Sluss' Declaration further states that antigenic epitope modeling could be used on predicted sequences to identify small immunogens that could be synthesized and used to produce panels of site specific monoclonal antibodies. Dr. Sluss' Declaration further states that antibodies could then be selected for recognition of endogenous protein products.

The amendments to the claims and the arguments found in the Submission of 4/22/08 have been carefully considered, but are not deemed persuasive. In regards to the argument that Dr. Sluss does not believe that the identification of a protein sequence or an ORF in the patent application is required for one of skill to identify structural or functional attributes of antibodies to proteins or peptide fragments of SEQ ID NO:1 or fragments thereof, the specification does not provide a written description of the antibodies because it is unclear to which protein they are to bind. Without identifiable structural attributes (such as CRF sequences) or functional attributes (such as which polypeptides the claimed antibodies specifically bind), the antibodies lack a written description.

In regards to the argument that the nucleic acid sequence contains all information needed for one skilled in the art to predict all proteins that could be coded using software tools available in 1998, as noted in Applicant's previous declaration by Dr. Salceda, Applicants would identify multiple potential open reading frames using tools described in the art with SEQ ID NO:1. One of skill in the art would have no reason to assume that a particular potential ORF identified by a computer program would encode *the* protein encoded by SEQ ID NO:1. Further, while the Declaration of Dr. Salceda states that tools were available in 1998 to predict proteins, predict epitopes, and screen for antibodies of the instant claims, the skilled artisan cannot envision the detailed chemical structure of the encompassed genus, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolation. The compound itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

Summary

No claim is allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN E. AEDER whose telephone number is (571)272-8787. The examiner can normally be reached on M-F: 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached on 571-272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MISOOK YU/
Primary Examiner, Art Unit 1642